**IN THE CLAIMS**

1. (Currently Amended) A discharge lamp, comprising:

an arc tube having a discharge space including substantially no mercury;

a pair of electrodes facing each other in the discharge space; and

a low melting point metal halide with a melting point less than or equal to approximately 400°C and a rare gas enclosed at high pressure in a range of approximately 7-20 atms in the discharge space in such a manner as to create a hot plasma at a high temperature and pressure, promote an increase in tube wall temperature, and vaporize the metal halide to emit light.

2. (Original) The discharge lamp of claim 1, wherein the rare gas includes xenon.

3. (Original) The discharge lamp of claim 1, wherein the metal halide includes scandium iodide and sodium iodide.

4. (Currently Amended) The discharge lamp of claim 1, wherein

$P/(Q \cdot t)$ is approximately equal to or larger than 0.20

where Q represents a content volume of the arc tube in μl, t represents a maximum wall thickness in mm, and P represents a pressure of the rare gas at room temperature in atms.

5. (Original) The discharge lamp of claim 4, wherein the rare gas includes xenon and the metal halide includes scandium iodide and sodium iodide.

6. (Currently Amended) The discharge lamp of claim 1, wherein

P/S1/S2 is approximately equal to or larger than 0.06

where P is a pressure of the rare gas at room temperature in atms, S1 is a cross-sectional area in $mm^2$ of an area of the discharge space at its greatest internal diameter, and S2 is a cross-sectional area in $mm^2$ of material forming the arc tube located at a portion of greatest internal diameter of the arc tube.

7. (Original) The discharge lamp of claim 6, wherein the rare gas includes xenon and the metal halide includes scandium iodide and sodium iodide.

8. (Previously Presented) A metal halide lamp, comprising:

an arc tube having a discharge space including substantially no mercury;

a pair of electrodes projecting in such a manner as to face each other in the discharge space within the arc tube, a substantially cylindrical arc capable of being generated between ends of the pair of electrodes;

a buffer gas serving as a starter gas and including xenon at a pressure of between approximately 7 to 20 atms at room temperature located in the discharge space;

one of sodium halide, scandium halide, and a compound of sodium halide and scandium halide located in the discharge space; and

a low melting point metal halide with a melting point less than or equal to approximately 400°C located in the discharge space.

9. (Original) The metal halide lamp of claim 8, wherein the arc tube has an internal diameter within a range of approximately 0.6 mm to 1.7 mm larger than a diameter of the arc between the ends of the electrodes, and the electrodes protrude into the discharge space to a length of approximately 1.0 mm to 1.7 mm.

10. (Original) The metal halide lamp of claim 9, wherein the low melting point metal halide includes at least one of indium halide, gallium halide, and tin halide.

11. (Original) The metal halide lamp of claim 9, wherein the ionizing potential of the low melting point metal halide is approximately 5.5eV to 6.5eV.

12. (Original) The metal halide lamp of claim 11, wherein the low melting point metal halide comprises at least one of indium halide, gallium halide and tin halide.

13. (Original) The metal halide lamp of claim 9, wherein a mole content ratio of sodium halide to scandium halide is approximately 1.0 to 15, and a ratio of mole content of the low melting point metal halide to the scandium halide is in a range of approximately 0.1 to 10.

14. (Currently Amended) The metal halide lamp of claim 13, wherein the low melting point metal halide includes one of ~~least~~ indium halide, gallium halide and tin halide.

15. (Original) The metal halide lamp of claim 13, wherein the ionizing potential of the low melting point metal halide is approximately 5.5eV to 6.5eV.

16. (Original) The metal halide lamp of claim 15, wherein the low melting point metal halide includes one of indium halide, gallium halide, and tin halide.

17. (Previously Presented) A metal halide lamp, comprising:

an arc tube having a discharge chamber including substantially no mercury;

a pair of electrodes projecting in such a manner as to face each other in the discharge space within the arc tube, with a substantially cylindrical arc capable of being generated between ends of the pair of electrodes;

a buffer gas serving as a starter gas located in the discharge space and including xenon at a pressure of approximately 7 to 20 atms at room temperature;

one of sodium halide, scandium halide and a compound of sodium halide and scandium halide located in the discharge space; and

a low melting point metal halide with a melting point less than or equal to approximately 400°C located in the discharge space, wherein

an internal diameter of the arc tube is within a range of approximately 0.6 mm to 1.7 mm larger than a diameter of the arc between the ends of the electrodes, and the electrodes protrude into the discharge space a length of approximately 1.0 mm to 1.7 mm, a mole content ratio of sodium halide to scandium halide is approximately 1.0 to 15, and a mole content ratio of the low melting point metal halide to the scandium halide is in a range of approximately 0.5 to 3.0.

18. (Original) The metal halide lamp of claim 17, wherein the low melting point metal halide includes one of indium halide, gallium halide and tin halide.

19. (Original) A metal halide lamp of claim 17, wherein the ionizing potential of the low melting point metal halide is approximately 5.5eV to 6.5eV.

20. (Original) The metal halide lamp of claim 19, wherein the low melting point metal halide includes one of indium halide, gallium halide and tin halide.

21. (New) A metal halide lamp, comprising:

an arc tube having a discharge chamber including substantially no mercury;

a pair of electrodes projecting in such a manner as to face each other in the discharge space within the arc tube, with a substantially cylindrical arc capable of being generated between ends of the pair of electrodes;

a buffer gas serving as a starter gas located in the discharge space and including xenon at a pressure of approximately 7 to 20 atms at room temperature;

one of sodium halide, scandium halide and a compound of sodium halide and scandium halide located in the discharge space; and

a low melting point metal halide with a melting point less than or equal to approximately 400°C located in the discharge space, wherein

an internal diameter of the arc tube is within a range of approximately 0.6 mm to 1.7 mm larger than a diameter of the arc between the ends of the electrodes, and the electrodes protrude into the discharge space a length of approximately 1.0 mm to 1.7 mm, and a mole content ratio of sodium halide to scandium halide is approximately 1.0 to 15.